

IN THE CLAIMS:

1. (original) A method of operating a wireless communication system to service high data rate forward link transmissions for a mobile station, the method comprising:

determining an active set of base stations for servicing the mobile station;

for each of the active set of base stations, downloading a plurality of blocks of data from a central buffer, wherein each block of data of the plurality of blocks of data includes a respective sequence number, and wherein a first block of data of the plurality of blocks of data includes an initial sequence number;

transmitting blocks of data from a serving base station of the active set of base stations to the mobile station;

receiving a sequence number from the mobile station for each block of data successfully received by the mobile station; and

when the sequence number of a block of data successfully received by the mobile station exceeds the initial sequence number by a threshold value, downloading a next plurality of blocks of data from a central buffer to each base station of the active set of base stations.

2. (original) The method of claim 1, wherein the central buffer is serviced by a base station controller, and wherein the base station controller services the plurality of base stations.

3. (original) The method of claim 2, wherein the central buffer is serviced by a services gateway switching node that services the plurality of base stations.

4. (original) The method of claim 1, wherein only one base station of the active set of base stations services forward link transmissions to the mobile station at any particular time.

5. (original) The method of 4, wherein:
- the mobile station reports the sequence number of a successfully received block of data to its serving base station; and
- determining that the sequence number of a block of data successfully received by the mobile station exceeds the initial sequence number by a threshold value is determined by the mobile station's serving base station.
6. (original) The method of claim 1, wherein the wireless communication system supports the 1xEV-DO standard.
7. (original) The method of claim 1, wherein the wireless communication system supports the High Speed Downlink Packet Access standard.

8. (currently amended) A method of managing the contents of a plurality of data buffers in a wireless communication system to service forward link data transmissions for a mobile station, the method comprising:

receiving data in a central buffer of a network element of the wireless communication system element, wherein the network element manages a plurality of base stations of the wireless communication system;

downloading a plurality of blocks of data from the central buffer to each of a plurality of distributed buffers resident in a respective plurality of base stations forming an active set of base stations servicing the mobile station;

transmitting blocks of data from a serving base station of the active set of base stations to the mobile station;

determining that distributed buffer refresh is required; and

downloading a next plurality of blocks of data from the central buffer to each of the plurality of distributed buffers resident in the active set of base stations servicing the mobile station.

9. (original) The method of claim 8, wherein:

the central buffer supports centralized link layer buffering operations; and

the plurality of distributed buffers support distributed link layer buffering operations.

10. (original) The method of claim 9, wherein the central buffer and the plurality of distributed buffers support the radio link protocol.

11. (original) The method of claim 8, wherein only one base station of the active set

of base stations services forward link transmissions to the mobile station at any particular time.

12. (original) The method of claim 8, wherein the network element is a base station controller.

13. (original) A method of managing the contents of a plurality of data buffers in a wireless communication system to service forward link data transmissions for a mobile station, the method comprising:

receiving data in a central buffer of a network element of the wireless communication system, wherein the network element services a plurality of base stations of the wireless communication system;

downloading a plurality of blocks of data from the central buffer to each of a plurality of distributed buffers resident in a respective plurality of base stations that define an active set of base stations servicing the mobile station, wherein each block of the plurality of blocks of data includes a respective sequence number, and wherein a first block of data of the plurality of blocks of data includes an initial sequence number;

transmitting blocks of data from a serving base station of the active set of base stations to the mobile station;

for each block of data successfully received by the mobile station, receiving confirmation from the mobile station that includes a sequence number of the successfully received block of data; and

when the sequence number of a block of data successfully received by the mobile station exceeds the initial sequence number by a threshold value, downloading a next plurality of blocks of data from a central buffer to each of the plurality of distributed buffers resident in the plurality of base stations that define the active set of base stations servicing the mobile station base.

14. (original) The method of claim 13, wherein the central buffer is serviced by a base station controller that services the plurality of base stations.

15. (original) The method of claim 13, wherein the central buffer is serviced by a services gateway switching node that services the plurality of base stations.

16. (original) The method of claim 13, wherein only one base station of the active set of base stations may be the serving base station at any particular time.

17. (original) The method of claim 13, wherein:  
the mobile station reports the sequence number of a successfully received block of data to the serving base station; and

determining that the sequence number of a block of data successfully received by the mobile station exceeds the initial sequence number by a threshold value is determined by the serving base station.

18. (currently amended) A base station controller comprising:  
a packet data serving node interface;  
at least one base station interface that interfaces the base station controller to a plurality of base stations; and  
at least one digital processor coupled to the ~~Radio-Frequency unit~~ at least one base station interface that executes software instructions causing the base station controller to:  
determine an active set of base stations for servicing ~~the a~~ mobile station;  
download a plurality of blocks of data to each base station of the active set of base stations, wherein each block of data of the plurality of blocks of data includes a respective sequence number, and wherein a first block of data of the plurality of blocks of data includes an initial sequence number;  
receive an indication from a serving base station of the active set of base stations that a data refresh is required; and  
download a next plurality of blocks of data to each base station of the active set of base stations.

19. (original) The base station controller of claim 18, wherein only one base station of the active set of base stations services forward link transmissions to the mobile station at any particular time.

20. (original) The base station controller of claim 18, wherein the base station controller supports the 1xEV-DO standard.